IN THE SPECIFICATION

Please delete the paragraph consisting of lines 14-18 on page 32 of the specification and replace the deleted paragraph with the following paragraph:

In this case, I_0 is the total intensity of the laser on the specimen which is split into equal parts on the n partial beams; θ_i are the angles and ϕ_i are the phase relationships between the partial beams with reference to an arbitrarily selected partial beam.

Please delete the paragraph consisting of lines 18-21 on page 32 of the specification and replace the deleted paragraph with the following paragraph:

Different projection scenarios of the structure can be obtained by means of a phase shift (by changing the phase relationships ϕ_i) of the structure vertical to the optical axis. The modulation frequency of the structured illumination is determined by the angles θ_i.

Please delete the paragraph consisting of lines 11-19 on page 33 of the specification and replace the deleted lines with the following:

θ is the angle between the two wavefronts of the two partial beams. λ and ϕ are the wavelength of the partial beams and the phase position of the modulation frequency p. By changing the angle θ, the period of the modulation can be deliberately adjusted and a change in the optical section thickness can be carried out (see below). Further, the modulation frequency changes as a function of the wavelength that is used and the frequency coding described above can be carried out. The phase of the modulation frequency is determined by the phase relationship ϕ between the two partial beams. By varying ϕ in accordance with the preceding description, the image phases can be adjusted and a phase coding can be carried out.

Please delete the paragraph consisting of lines 11-32 on page 35 through lines 1-22 on page 36 of the specification and replace with the following paragraph:

In Fig. 22A, light from the light source LQ which generates a collimated light bundle is transmitted through a Fresnel biprism FBP. The cylindrical lens ZL is located after FBP and acts in the plane vertical to the drawing plane and optical axis. As is shown in Fig. 22D, ZL can also be arranged in front of FBP without limitation. The splitting of the collimated beam of the light source into two partial beams of identical energy which enclose

an angle θ of typically less than 5° is carried out by means of the biprism. The two partial beams intersect in an intermediate image ZB of the microscope arrangement. The line formed by the cylindrical optics ZL along the x-direction in the intermediate image is located in the xy plane. The drawing shows, by way of example, cylindrical optics ZL which focus the light of the light source LQ in the intermediate image ZB, i.e., the ZL stands at a distance exactly corresponding to the distance of focal length from the intermediate image. The partial beams reach the specimen through the following optics of the microscope arrangement (see Figs. 9, 10, 11, 12 and 23) via the scanners X and Y, the scan optics SO, the tube lens TL and the objective O. In the specimen, the two partial beams overlap interferometrically and form a periodically structured scan line along the x-axis. The period of the scan line is dependent on the angle of inclination θ of the FBP (see Fig. 22A) and the wavelength of LQ. The image phase, i.e., ϕ, can be deliberately adjusted by a rotation of FBP about the point of rotation DP in Fig. 22A. For a detailed description of the microscope arrangement and the method for generating the phase images and the calculation of the section images, reference is had to the preceding description. The advantage of variant A is that, by inserting FBP and ZL into the microscope beam path, a point-scanning laser scanning microscope can be reconfigured in a particularly advantageous manner to a microscope which scans in real time and in parallel manner. Further, the modulation frequency is highly dependent on the wavelength of the radiated light through the prismatic effect of FBP. This is advantageous especially for frequency coding (see above). However, the prismatic effect of FBP is problematic when using short pulse lasers with pulse lengths of less than 100 fs, since the individual spectral components of the laser pulses are imaged at different locations on the specimen and consequently can result in a widening of the pulses and therefore in a reduction in the pulse peak power. Fig. 22B therefore shows another advantageous arrangement. In this case, the splitting is carried out with a reflecting element such as a roof mirror DKS. DKS is arranged in the light source module (see Figs. 9, 10, 11, 12 and 23) in such a way that the partial beams with identical energy intersect in ZB in the xz plane at an angle θ. ZL again focuses the LQ in the yz plane, so that a line is formed in ZB. By changing the angle between the two mirrors M1 and M2, e.g., by means of a piezo-actuator or a spindle pressing against M2 or M1, the angle θ between the two partial beams and, accordingly, the modulation frequency can be adjusted in a deliberate manner. In addition, an adjustment of the image phase ϕ can be carried out by a rotation of DKS about the axis of rotation DP shown in the drawing. The recording and calculation of the optical sections again take place in a manner analogous to the method already described above.